CalPERS

Actuarial Valuation Report
for the
1959 Survivor Benefit Program
as of June 30, 2007

Table of Contents

Actuarial Certification

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the 1959 Survivor Program for Public Agency 1st, 2nd, 3rd, 4th, and Indexed Level, and the State and Schools 5th Level Pools. This valuation is based on the beneficiary and membership data provided to the Actuarial Office, the statement of assets provided by the CalPERS Fiscal Services Division, and the benefits provided under this program. It is our opinion that this valuation has been performed by qualified actuaries in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this program.

Richard Santos, A.S.A., M.A.A.A.
Senior Pension Actuary, CalPERS

Ron Seeling, Ph.D., F.C.A., A.S.A., M.A.A.A.
Enrolled Actuary
Chief Actuary, CalPERS

Purpose of the Report

This actuarial valuation of the 1959 Survivor Program for Public Agency 1st, 2nd, 3rd, 4th and Indexed level and the State and Schools 5th level pools within the California Public Employees' Retirement System (CalPERS) was performed by CalPERS' staff actuaries as of June 30, 2007 in order to

- set forth the actuarial value of assets and liabilities of this program as of June 30, 2007;
- establish the actuarially required employer premiums for these pools within the program for the fiscal year July 1, 2008 through June 30, 2009; and
- provide actuarial information as of June 30, 2007 to the CalPERS Board of Administration and other interested parties.

Use of this report for other purposes is inappropriate.

Funded Status of the Plan

Shown below are the Actuarial Value of Assets, the Accrued Liability, Excess Assets, and Funded Ratio of all pools within the 1959 Survivor Benefit Program.

Plan	Actuarial Value of Assets (AVA) [1]	Accrued Liability	Excess Assets based on AVA	Market Value of Assets (MVA)	Funded Ratio based on MVA
State 5th Level Pool	$ 110,636,672	$ 136,834,122	$ (26,197,450)	$ 130,110,615	95.1%
Schools 5th Level Pool	$ 53,698,609	$ 12,092,980	$ 41,605,629	$ 63,124,330	522.0%
PA 1st Level Pool	$ 28,826,324	$ 2,494,840	$ 26,331,484	$ 34,266,464	1,373.5%
PA 2nd Level Pool	$ 7,525,124	$ 1,948,414	$ 5,576,710	$ 8,907,974	457.2%
PA 3rd Level Pool	$ 79,781,060	$ 23,494,397	$ 56,286,663	$ 94,214,343	401.0%
PA 4th Level Pool	$ 138,065,583	$ 103,619,021	$ 34,446,562	$ 163,584,555	157.9%
PA Indexed Level Pool	$ 18,145,744	$ 12,196,719	$ 5,949,025	$ 21,334,352	174.9%

1 – The Actuarial Value of Assets is used to establish funding requirements,while the funded ratio based on the Market Value of Assets is a better indicator of the solvency of the pool.

Required Employer and Employee Monthly Premiums

The actuarially required employer and employee monthly premiums per covered member per month for the 1959 Survivor Program for the fiscal year July 1, 2008 through June 30, 2009 are shown below. The results for fiscal year July 1, 2007 through June 30, 2008 are shown for comparison. Except for the Public Agency Indexed Level pool, these monthly premiums are determined using a Modified Term Insurance funding method. Monthly premiums for the Public Agency Indexed Level pool are determined using the Entry Age Normal funding method.

Required Monthly Premiums						
	2007-2008 Premium			2008-2009 Premium		
Plan	Employer	Employee	Total	Employer	Employee	Total
State 5th Level Pool*	$5.30	$5.30	$10.60	$5.20	$5.20	$10.40
Schools 5th Level Pool*	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 1st Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 2nd Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 3rd Level Pool**	$0.00	$2.00	$2.00	$0.00	$2.00	$2.00
PA 4th Level Pool**	$2.80	$2.00	$4.80	$2.50	$2.00	$4.50
PA Indexed Level Pool*	$0.80	$2.00	$2.80	$0.90	$2.00	$2.90

* Section 21581 of the California Public Employees' Retirement Law requires mandatory cost sharing when the total premium exceeds $4.00

** Mandatory $2.00 member monthly premium required

The required employee premium for the State 5th level pool will change from $5.30 to $5.20 per member, per month (or from $2.45 to $2.40 for biweekly paid members) for fiscal year 2008/2009. This is in accordance with State Statute 21581 which specifies that when the total required premium (after amortization of surplus/unfunded liability) exceeds $4, the employer and the member shall evenly share the required monthly premium. Employee required premiums for all of the other pools shall remain the same, $2.00, as in the prior year.

Changes Since Prior Valuation

**Actuarial Assumptions** – There was no change in actuarial assumptions since the June 30, 2006 valuation.

**Actuarial Method** –

Projected Counts – Projected counts of active members are needed to estimate the required employer premiums and projected unfunded liabilities for each pool. To the extent that these estimates are incorrect, subsequent gains and losses are realized in future valuations. The predictability of the counts has been very difficult in recent years, mostly due to the addition of the Public Agency Indexed Level and the pooling of Public Agency Levels 1 and 2.

To that end, this valuation employs an autoregressive model to predict counts for Public Agency Levels 1, 2, and 4. This method explicitly relies on counts from prior years to predict future results. A linear trend model (ordinary time series regression) will be maintained for the Public Agency Level 3 and State and School Pools.

Normal Cost Calculation - For all pools except the Public Agency Indexed Pool, the valuation uses a funding method called the "term insurance method" to calculate a normal cost. In the past we have been applying this methodology by calculating a normal cost using an equal weighted average of the most recent four years of death and exposure data.

Currently at CalPERS, there are several pre-retirement death benefits that are coordinated with one another. When new deaths occur each year, it is often unknown which benefit will ultimately apply (i.e. 1957 Survivor, Industrial Death, Pre-Retirement Option 2 or 1959 Survivor). Many times, new deaths are initially placed under the 1959 Survivor roll, but ultimately are reclassified to another roll the very next year. As some of the pools continue to decline in size, particularly the School Pool, even one or two deaths that appear and then are ultimately reclassified, create volatility in the normal cost calculation. Most recently, we would have excluded an entire year of data that initially appeared to be anomalous, only to find next year that the anomaly had been "reclassified".

Consequently, this valuation uses a slightly different approach to calculate the normal cost. The new method calculates the most current normal cost as usual, using the past 4 years of death and exposure data, but the final normal cost is calculated by weighting this new normal cost by 25% and then adding to it 75% of the prior year's normal cost. This effectively gives very little weight to the most recent year's death and exposure data, but will give more weight to that same year of data in subsequent valuations. This methodology is being used as a direct response to the variability in the School Pool death counts, however in the interest of consistency, we've applied it across all pools utilizing the term insurance funding method. For a more detailed description of the methodology please see the "Actuarial Funding Method" section.

**Benefits** – There was no change in the existing benefit levels in the program since the June 30, 2006 valuation.

Comparison of Current and Prior Results

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

State 5th Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	71,742	76,902
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	290	279
Receiving Benefits	1,405	1,447
Total	1,695	1,726
Present Value of Benefits	$ 134,455,317	$ 136,834,122
Assets		
Actuarial Value	$ 106,719,876	$ 110,636,672
Market Value	$ 113,823,824	$ 130,110,615
Unfunded Liability/Excess Assets	$ (27,735,441)	$ (26,197,450)
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/Excess Assets	$7.70	$7.80
After Amortization of Unfunded Liability/Excess Assets	$10.60	$10.40
After employer/employee premium sharing	$5.30	$5.20
Funded Ratio based on MVA	84.7%	95.1%

Schools 5th Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	9,469	10,131
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	14	13
Receiving Benefits	146	147
Total	160	160
Present Value of Benefits	$ 12,150,901	$ 12,092,980
Assets		
Actuarial Value	$ 50,409,579	$ 53,698,609
Market Value	$ 53,904,747	$ 63,124,330
Excess Assets	$ 38,258,678	$ 41,605,629
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/Excess Assets	$5.00	$5.00
After Amortization of Unfunded Liability/Excess Assets	$0.00	$0.00
After employer/employee premium sharing	$0.00	$0.00
Funded Ratio based on MVA	443.6%	522.0%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 1st Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	8,615	8,578
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	49	48
Receiving Benefits	92	93
Total	141	141
Present Value of Benefits	$ 2,542,960	$ 2,494,840
Assets		
Actuarial Value	$ 27,097,152	$ 28,826,324
Market Value	$ 29,313,350	$ 34,266,464
Excess Assets	$ 24,554,192	$ 26,331,484
Required Employer Monthly Premium Per Member		
Total premium required	$ 1.40	$ 1.40
Premium required after Employee Contributions	$ 0.00	$ 0.00
Employer premium after amortization of excess assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	1,152.7%	1,373.5%

Public Agency 2nd Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	4,423	4,498
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	30	30
Receiving Benefits	57	59
Total	87	89
Present Value of Benefits	$ 1,887,236	$ 1,948,414
Assets		
Actuarial Value	$ 6,894,492	$ 7,525,124
Market Value	$ 7,448,635	$ 8,907,974
Excess Assets	$ 5,007,256	$ 5,576,710
Required Employer Monthly Premium Per Member		
Total premium required	$ 1.80	$ 1.80
Premium required after Employee Contributions	$ 0.00	$ 0.00
Employer premium after amortization of excess assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	394.7%	457.2%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency 3rd Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	45,639	45,373
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	227	218
Receiving Benefits	425	436
Total	652	654
Present Value of Benefits	$ 23,462,629	$ 23,494,397
Assets		
Actuarial Value	$ 75,789,474	$ 79,781,060
Market Value	$ 81,322,605	$ 94,214,343
Excess Assets	$ 52,326,845	$ 56,286,663
Required Employer Monthly Premium Per Member		
Total premium required	$ 2.70	$ 2.70
Premium required after Employee Contributions	$ 0.70	$ 0.70
Employer premium after amortization of excess assets	$ 0.00	$ 0.00
Funded Ratio based on MVA	346.6%	401.0%

Public Agency 4th Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	69,216	71,886
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	249	254
Receiving Benefits	720	763
Total	969	1,017
Present Value of Benefits	$ 98,934,022	$ 103,619,021
Assets		
Actuarial Value	$ 130,204,169	$ 138,065,583
Market Value	$ 140,314,751	$ 163,584,555
Excess Assets	$ 31,270,147	$ 34,446,562
Required Employer Monthly Premium Per Member		
Total premium required	$ 7.40	$ 7.40
Premium required after Employee Contributions	$ 5.40	$ 5.40
Employer premium after amortization of excess assets	$ 2.80	$ 2.50
Funded Ratio based on MVA	141.8%	157.9%

Comparison of Current and Prior Results (continued)

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

Public Agency Indexed Level Pool

	June 30, 2006	June 30, 2007
Covered Active Members	9,202	9,677
Beneficiaries Included in the Valuation		
Deferred (eligible, but not yet receiving benefits)	23	29
Receiving Benefits	75	76
Total	98	105
Entry Age Normal Accrued Liability	$ 11,401,526	$ 12,196,719
Assets		
Actuarial Value	$ 17,080,305	$ 18,145,744
Market Value	$ 18,262,176	$ 21,334,352
Excess Assets	$ 5,678,779	$ 5,949,025
Required Employer Monthly Premium Per Member		
Before Amortization of Unfunded Liability/Excess Assets	$ 6.60	$ 6.70
After Amortization of Unfunded Liability/Excess Assets	$ 2.80	$ 2.90
After employer/employee premium sharing	$ 0.80	$ 0.90
Funded Ratio based on MVA	160.2%	174.9%

Development of Funding Requirements
for State 5th and Schools 5th Level Pools
June 30, 2007 Annual Valuation of 1959 Survivor Program

	State 5th Level	School 5th Level
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$136,834,122	$12,092,980
b. Actuarial Value of Assets	$110,636,672	$53,698,609
c. Unfunded Accrued Liability/(Excess Assets) [1(a)-1(b)]	$26,197,450	($41,605,629)
2) Development of Normal Cost		
a. Present Value of Benefits for 2003-2006 Deaths	$26,575,058	$2,226,618
b. Number of 2003-2006 Member Months	3,299,736	451,032
c. Total per member, per month 2007/2008 Term Insurance Normal Cost	$7.70	$5.00
d. Total per member, per month 2008/2009 Term Insurance Normal Cost [.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10	$7.80	$5.00
3) 2008 Projected Unfunded Liability		
a. 2007 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2008 [1(c)*1.0775]	$28,227,752	($44,830,065)
b. Projected Normal Cost Accrual 2007-2008 with interest	$7,748,733	$666,647
c. Projected Employer Contributions 2007-2008 with interest	$5,072,104	$0
d. Projected Employee Contributions 2007-2008 with interest	$5,072,104	$257,061
e. Total Projected UAL/(Excess Assets) as of June 30, 2008 [3(a)+3(b)-3(c)-3(d)]	$25,832,278	($44,420,479)
4) 2008/2009 Required Contribution		
a. Required Normal Cost per member, per month [2(c)]	$7.80	$5.00
b. Projected Active Members as of 6/30/2008	76,755	10,506
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775$^{1/2}$]	$7,457,464	$654,331
d. Amortization of the UAL/(Excess Assets)	$2,158,624	($654,331)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)/12)], rounded to nearest $0.10	$10.40	$0.00
f. Amortization Period	30-year	9999-year
5) 2008/2009 Required Employer and Employee Premiums With Cost Sharing Provision		
a. Required Employee Premium per member, per month [maximum(2,4(e)/2)]	$5.20	$2.00
b. Required Employer Premium per member, per month	$5.20	$0.00

Development of Funding Requirements
for Public Agency 1st and 2nd Level Pools
June 30, 2007 Annual Valuation of 1959 Survivor Program

	Public Agency Level 1	Public Agency Level 2
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$2,494,840	$1,948,414
b. Actuarial Value of Assets	$28,826,324	$7,525,124
c. Unfunded Accrued Liability/(Excess Assets)	($26,331,484)	($5,576,710)
[1(a)-1(b)]		
2) Development of Normal Cost		
a. Present Value of Benefits for 2003-2006 Deaths[1]	$8,839,856	$11,049,820
b. Number of 2003-2006 Member Months[1]	6,382,296	6,382,296
c. Total Per Member/Per Month 2007/2008 Term Insurance Normal Cost	$1.40	$1.80
d. Total Per Member/Per Month 2008/2009 Term Insurance Normal Cost	$1.40	$1.80
[.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10		
3) 2008 Projected Unfunded Liability		
a. 2007 Unfunded Accrued Liability as of June 30, 2008	($28,372,175)	($6,008,905)
[1(c)*1.0775]		
b. Projected Normal Cost Accrual 2007-2008 with interest	$152,750	$101,962
c. Projected Employer Contributions 2007-2008 with interest	$0	$0
d. Projected Employee Contributions 2007-2008 with interest	$210,088	$109,030
e. Total Projected UAL as of June 30, 2008	($28,429,513)	($6,015,973)
[3(a)+3(b)-3(c)-3(d)]		
4) 2008/2009 Required Contribution		
a. Required Normal Cost per member, per month	$1.40	$1.80
[2(c)]		
b. Projected Active Members as of 6/30/2008	8,288	4,255
c. Required Normal Cost Contribution	$144,533	$95,403
[12*4(a)*4(b)*1.0775^1/2]		
d. Amortization of the UAL/(Excess Assets)	($144,533)	($95,403)
e. Total Required Contribution Per Member, Per Month	$0.00	$0.00
[(4(c)+4(d))/(4(b)/12)], rounded to nearest $0.10		
f. Amortization Period	9999-year	9999-year
5) 2008/2009 Required Employer and Employee Premiums		
a. Required Employee Premium per member, per month	$2.00	$2.00
b. Required Employer Premium per member, per month	$0.00	$0.00
[maximum(0,4(e)-5(a))]		

Notes:

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data.

Development of Funding Requirements
for Public Agency 3rd and 4th Level Pools
June 30, 2007 Annual Valuation of 1959 Survivor Program

	Public Agency Level 3	Public Agency Level 4
1) Development of Unfunded Liability		
a. Present Value of Future Survivor Benefits	$23,494,397	$103,619,021
b. Actuarial Value of Assets	$79,781,060	$138,065,583
c. Unfunded Accrued Liability/(Excess Assets)	($56,286,663)	($34,446,562)
[1(a)-1(b)]		
2) Development of Normal Cost		
a. Present Value of Benefits for 2003-2006 Deaths[1]	$17,188,609	$46,654,796
b. Number of 2003-2006 Member Months[1]	6,382,296	6,382,296
c. Total Per Member/Per Month 2007/2008 Term Insurance Normal Cost	$2.70	$7.40
d. Total Per Member/Per Month 2008/2009 Term Insurance Normal Cost	$2.70	$7.40
[.25 * 2(a)/2(b) + .75 * (c)], rounded to nearest $0.10		
3) 2008 Projected Unfunded Liability		
a. 2007 Unfunded Accrued Liability as of June 30, 2008	($60,648,879)	($37,116,171)
[1(c)*1.0775]		
b. Projected Normal Cost Accrual 2007-2008 with interest	$1,563,434	$7,023,144
c. Projected Employer Contributions 2007-2008 with interest	$0	$2,562,064
d. Projected Employee Contributions 2007-2008 with interest	$1,115,115	$1,830,046
e. Total Projected UAL as of June 30, 2008	($60,200,560)	($34,485,136)
[3(a)+3(b)-3(c)-3(d)]		
4) 2008/2009 Required Contribution		
a. Required Normal Cost per member, per month	$2.70	$7.40
[2(c)]		
b. Projected Active Members as of 6/30/2008	44,149	75,031
c. Required Normal Cost Contribution	$1,484,822	$6,916,117
[12*4(a)*4(b)*1.0775^1/2]		
d. Amortization of the UAL/(Excess Assets)	($1,484,822)	($2,881,683)
e. Total Required Contribution Per Member, Per Month	$0.00	$4.50
[(4(c)+4(d))/(4(b)/12)], rounded to nearest $0.10		
f. Amortization Period	9999-year	30-year
5) 2008/2009 Required Employer and Employee Premiums		
a. Required Employee Premium per member, per month	$2.00	$2.00
b. Required Employer Premium per member, per month	$0.00	$2.50
[maximum(0,4(e)-5(a))]		

Notes:

1 - Mortality experience and survivor distribution are assumed to be homogeneous across all Public Agency pools and are added together to develop normal costs in order to improve credibility of the data.

Development of Funding Requirements
for Indexed Level Pool
June 30, 2007 Annual Valuation of 1959 Survivor Program

	Public Agency Indexed Level
1) Development of Unfunded Liability	
a. Present Value of Future Benefits for Active Members	$8,261,155
b. Present Value of Future Benefits for Current Survivors	$9,301,125
c. Total Present Value of Future Benefits [1(a)+1(b)]	$17,562,280
d. Present Value of Future Normal Costs	$5,365,561
e. Entry Age Normal Total Accrued Liability [1(c)-1(d)]	$12,196,719
f. Actuarial Value of Assets	$18,145,744
g. Unfunded Accrued Liability/(Excess Assets) [1(e)-1(f)]	($5,949,025)
2) Development of Normal Cost	
a. Required Entry Age Normal Cost	$782,640
b. Active Members as of June 30, 2007	9,677
c. Total per member per month Entry Age Normal Cost [2(a)/2(b)*12], rounded to nearest $0.10	$6.70
3) 2008 Projected Unfunded Liability	
a. 2007 Unfunded Accrued Liability/(Excess Assets) as of June 30, 2008 [1(g)*1.0775]	($6,410,074)
b. Projected Normal Cost Accrual 2007-20083 with interest	$858,149
c. Projected Employer Contributions 2007-2008 with interest	$98,889
d. Projected Employee Contributions 2007-2008 with interest	$246,996
e. Total Projected UAL as of June 30, 2008 [3(a)+3(b)-3(c)-3(d)]	($5,897,810)
4) 2008/2009 Required Contribution	
a. Required Normal Cost per member, per month [2(c)]	$6.70
b. Projected Active Members as of June 30, 2008	10,152
c. Required Normal Cost Contribution [12*4(a)*4(b)*1.0775^{1/2}]	$847,259
d. Amortization of the UAL/(Excess Assets)	($492,839)
e. Total Required Contribution per member, per month [(4(c)+4(d))/(4(b)/12)], rounded to nearest $0.10	$2.90
f. Amortization Period	30-year
4) 2008/2009 Employer and Employee Premiums with Cost Sharing Provision	
a. Required Employee Premium per member, per month [maximum(2,4(e)/2)]	$2.00
b. Required Employer Premium per member, per month [maximum(0,4(e)-5(a))]	$0.90

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

State 5th Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 134,455,317
2)	Actuarial Value of Assets	106,719,876
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	27,735,441

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	6,831,678
5)	Employer and Employee Premiums Collected	9,422,053
6)	Benefit Payments	(14,956,582)
7)	Net Liabilities Transferred into the State 5th level pool	0
8)	Net Assets Transferred into the State 5th level pool	0

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	136,441,735
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	109,245,676
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	27,196,059

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	136,834,122
13)	Actual Actuarial Value of Assets	110,636,672
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	26,197,450

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	(392,387)
16)	Asset Gain/(Loss) [(13) – (10)]	1,390,996
17)	Total Gain/(Loss) [(15) + (16)]	$ 998,609

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

Schools 5th Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 12,150,901
2)	Actuarial Value of Assets	50,409,579
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(38,258,678)

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	591,528
5)	Employer and Employee Premiums Collected	227,664
6)	Benefit Payments	(1,471,349)
7)	Net Liabilities Transferred into the Schools 5th level pool	0
8)	Net Assets Transferred into the Schools 5th level pool	0

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	12,179,318
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	53,025,343
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(40,846,025)

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	12,092,980
13)	Actual Actuarial Value of Assets	53,698,609
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(41,605,629)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	86,338
16)	Asset Gain/(Loss) [(13) – (10)]	673,266
17)	Total Gain/(Loss) [(15) + (16)]	$ 759,604

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

Public Agency 1st Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 2,542,960
2)	Actuarial Value of Assets	27,097,152
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(24,554,192)

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	144,421
5)	Employer and Employee Premiums Collected	294,348
6)	Benefit Payments	(239,657)
7)	Net Liabilities Transferred into the 1st level pool	(85,809)
8)	Net Assets Transferred into the 1st level pool	(786,308)

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	2,552,110
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	28,437,743
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(25,885,633)

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	2,494,840
13)	Actual Actuarial Value of Assets	28,826,324
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(26,331,484)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	57,270
16)	Asset Gain/(Loss) [(13) – (10)]	388,581
17)	Total Gain/(Loss) [(15) + (16)]	$ 445,851

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

Public Agency 2nd Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 1,887,236
2)	Actuarial Value of Assets	6,894,492
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(5,007,256)

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	94,206
5)	Employer and Employee Premiums Collected	322,694
6)	Benefit Payments	(202,053)
7)	Net Liabilities Transferred into the 2nd level pool	(14,343)
8)	Net Assets Transferred into the 2nd level pool	(123,017)

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	1,906,660
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	7,426,349
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(5,519,689)

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	1,948,414
13)	Actual Actuarial Value of Assets	7,525,124
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(5,576,710)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	(41,754)
16)	Asset Gain/(Loss) [(13) – (10)]	98,775
17)	Total Gain/(Loss) [(15) + (16)]	$ 57,021

Gain/(Loss) Analysis 6/30/2006 - 6/30/2007

Public Agency 3rd Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 23,462,629
2)	Actuarial Value of Assets	75,789,474
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(52,326,845)

Amounts During the Period 6/30/2006 - 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	1,490,777
5)	Employer and Employee Premiums Collected	1,247,897
6)	Benefit Payments	(2,260,037)
7)	Net Liabilities Transferred into the 3rd level pool	(548,278)
8)	Net Assets Transferred into 3rd level pool	(1,794,191)

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	23,913,342
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	78,750,111
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(54,836,769)

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	23,494,397
13)	Actual Actuarial Value of Assets	79,781,060
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(56,286,663)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	418,945
16)	Asset Gain/(Loss) [(13) – (10)]	1,030,949
17)	Total Gain/(Loss) [(15) + (16)]	$ 1,449,894

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

Public Agency 4th Level Pool

Amounts as of 6/30/2006

1)	Present Value of Benefits	$ 98,934,022
2)	Actuarial Value of Assets	130,204,169
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(31,270,147)

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	6,273,395
5)	Employer and Employee Premiums Collected	3,959,975
6)	Benefit Payments	(10,601,746)
7)	Net Liabilities Transferred into the 4th level pool	1,790,662
8)	Net Assets Transferred into the 4th level pool	2,738,026

Expected Amounts as of 6/30/2007

9)	Expected Present Value of Benefits $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	103,967,219
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	136,242,799
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(32,275,580)

Actual Amounts as of 6/30/2007

12)	Actual Present Value of Benefits	103,619,021
13)	Actual Actuarial Value of Assets	138,065,583
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(34,446,562)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	348,198
16)	Asset Gain/(Loss) [(13) – (10)]	1,822,784
17)	Total Gain/(Loss) [(15) + (16)]	$ 2,170,982

Gain/(Loss) Analysis 6/30/2006 – 6/30/2007

Public Agency Indexed Level Pool

Amounts as of 6/30/2006

1)	Accrued Liability	$ 11,401,526
2)	Actuarial Value of Assets	17,080,305
3)	Unfunded Liability/(Excess Assets) [(1)-(2)]	(5,678,779)

Amounts During the Period 6/30/2006 – 6/30/2007

4)	Expected Claims for the Fiscal Year 6/30/2006 – 6/30/2007	746,476
5)	Employer and Employee Premiums Collected	277,079
6)	Benefit Payments	(710,807)
7)	Net Liabilities Transferred into the Indexed Level pool	92,829
8)	Net Assets Transferred into the Indexed Level pool	(34,509)

Expected Amounts as of 6/30/2007

9)	Expected Accrued Liability $[(1) * 1.0775 + ((4) + (6) + (7)) * (1.0775)^{1/2}]$	12,418,528
10)	Expected Actuarial Value of Assets $[(2) * 1.0775 + ((5) + (6) + (8)) * (1.0775)^{1/2}]$	17,917,986
11)	Expected Unfunded Liability/(Excess Assets) [(9)-(10)]	(5,499,458)

Actual Amounts as of 6/30/2007

12)	Actual Accrued Liability	12,196,719
13)	Actual Actuarial Value of Assets	18,145,744
14)	Actual Unfunded Liability/(Excess Assets) [(12)-(13)]	(5,949,025)

Gain/(Loss) for the Period 6/30/2006 – 6/30/2007

15)	Liability Gain/(Loss) [(9) – (12)]	221,809
16)	Asset Gain/(Loss) [(13) – (10)]	227,758
17)	Total Gain/(Loss) [(15) + (16)]	$ 449,567

State 5th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 $ 113,823,824

2) Contributions (Employer and Employee) received during 2006-2007   9,422,053

3) Benefit Payments during 2006-2007   (14,956,582)

4) Net Transfer of Assets into and out of this pool   0

5) Investment Earnings credited   <u>21,821,320</u>

6) Ending Balance 6/30/2007   <u>$ 130,110,615</u>
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 $ 106,719,876

2) Contributions (Employer and Employee) received during 2006-2007   9,422,053

3) Benefit Payments during 2006-2007   (14,956,582)

4) Net Transfer of Assets into and out of this pool   0

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ <u>8,060,329</u>

6) Expected Actuarial Value of Assets as of 6/30/2007 $ 109,245,676
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 $ 130,110,615

8) Actuarial Value of Assets as of 6/30/2007   <u>$ 110,636,672</u>
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets   85.03%

Schools 5th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 $ 53,904,747

2) Contributions (Employer and Employee) received during 2006-2007   227,664

3) Benefit Payments during 2006-2007   (1,471,349)

4) Net Transfer of Assets into and out of this pool   0

5) Investment Earnings credited   10,463,268

6) Ending Balance 6/30/2007 $ 63,124,330
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 $ 50,409,579

2) Contributions (Employer and Employee) received during 2006-2007   227,664

3) Benefit Payments during 2006-2007   (1,471,349)

4) Net Transfer of Assets into and out of this pool   0

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ 3,859,449

6) Expected Actuarial Value of Assets as of 6/30/2007 $ 53,025,343
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 $ 63,124,330

8) Actuarial Value of Assets as of 6/30/2007 $ 53,698,609
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets   85.07%

Public Agency 1st Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 $ 29,313,350

2) Contributions (Employer and Employee) received during 2006-2007   294,348

3) Benefit Payments during 2006-2007   (239,657)

4) Net Transfer of Assets into and out of 1st level pool   (786,308)

5) Investment Earnings credited   <u>5,684,731</u>

6) Ending Balance 6/30/2007   <u>$ 34,266,464</u>
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 $ 27,097,152

2) Contributions (Employer and Employee) received during 2006-2007   294,348

3) Benefit Payments during 2006-2007   (239,657)

4) Net Transfer of Assets into and out of this pool   (786,308)

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ <u>2,072,208</u>

6) Expected Actuarial Value of Assets as of 6/30/2007 $ 28,437,743
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 $ 34,266,464

8) Actuarial Value of Assets as of 6/30/2007   <u>$ 28,826,324</u>
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets   84.12%

Public Agency 2nd Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 $ 7,448,635

2) Contributions (Employer and Employee) received during 2006-2007   322,694

3) Benefit Payments during 2006-2007   (202,053)

4) Net Transfer of Assets into and out of 2nd level pool   (123,017)

5) Investment Earnings credited   1,461,715

6) Ending Balance 6/30/2007 $ 8,907,974
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 $ 6,894,492

2) Contributions (Employer and Employee) received during 2006-2007   322,694

3) Benefit Payments during 2006-2007   (202,053)

4) Net Transfer of Assets into and out of this pool   (123,017)

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ 534,233

6) Expected Actuarial Value of Assets as of 6/30/2007 $ 7,426,349
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 $ 8,907,974

8) Actuarial Value of Assets as of 6/30/2007 $ 7,525,124
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets   84.48%

Public Agency 3rd Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 — $ 81,322,605

2) Contributions (Employer and Employee) received during 2006-2007 — 1,247,897

3) Benefit Payments during 2006-2007 — (2,260,037)

4) Net Transfer of Assets into and out of 3rd level pool — (1,794,191)

5) Investment Earnings credited — 15,698,069

6) Ending Balance 6/30/2007 — $ 94,214,343
[(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 — $ 75,789,474

2) Contributions (Employer and Employee) received during 2006-2007 — 1,247,897

3) Benefit Payments during 2006-2007 — (2,260,037)

4) Net Transfer of Assets into and out of this pool — (1,794,191)

5) Expected investment earnings during fiscal 2006-2007
$[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ — 5,766,968

6) Expected Actuarial Value of Assets as of 6/30/2007 — $ 78,750,111
[(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 — $ 94,214,343

8) Actuarial Value of Assets as of 6/30/2007 — $ 79,781,060
$[(6) + [((7)–(6)) \div 15]$, but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets — 84.68%

Public Agency 4th Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 $ 140,314,751

2) Contributions (Employer and Employee) received during 2006-2007   3,959,975

3) Benefit Payments during 2006-2007   (10,601,746)

4) Net Transfer of Assets into and out of 4th level pool   2,738,026

5) Investment Earnings credited   27,173,549

6) Ending Balance 6/30/2007 $163,584,555
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 $ 130,204,169

2) Contributions (Employer and Employee) received during 2006-2007   3,959,975

3) Benefit Payments during 2006-2007   (10,601,746)

4) Net Transfer of Assets into and out of this pool   2,738,026

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2)+(3)+(4)) * (1.0775^{1/2} - 1)]$ 9,942,375

6) Expected Actuarial Value of Assets as of 6/30/2007 $ 136,242,799
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 $163,584,555

8) Actuarial Value of Assets as of 6/30/2007 $138,065,583
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets   84.40%

Public Agency Indexed Level Pool

Reconciliation of the Market Value of Assets from the Prior Fiscal Year

1) Beginning Balance 6/30/2006 .... $ 18,262,176

2) Contributions (Employer and Employee) received during 2006-2007 277,079

3) Benefit Payments during 2006-2007 .... (710,807)

4) Net Transfer of Assets into and out of Indexed level pool .... (34,509)

5) Investment Earnings credited 3,540,413

6) Ending Balance 6/30/2007 .... $ 21,334,352
   [(1)+(2)+(3)+(4)+(5)]

Development of the Actuarial Value of Assets

1) Actuarial Value of Assets as of 6/30/2006 .... $ 17,080,305

2) Contributions (Employer and Employee) received during 2006-2007 277,079

3) Benefit Payments during 2006-2007 .... (710,807)

4) Net Transfer of Assets into and out of this pool .... (34,509)

5) Expected investment earnings during fiscal 2006-2007
   $[(1) * 0.0775 + ((2) + (3) + (4)) * (1.0775^{1/2} - 1)]$ 1,305,918

6) Expected Actuarial Value of Assets as of 6/30/2007 .... $ 17,917,986
   [(1) + (2) + (3) + (4) + (5)]

7) Market Value of Assets as of 6/30/2007 .... $ 21,334,352

8) Actuarial Value of Assets as of 6/30/2007 .... $18,145,744
   [(6) + [((7)–(6)) ÷ 15], but not less than 80% or more than 120% of (7)]

9) Ratio of Actuarial Value to Market Value of Assets .... 85.05 %

Summary of Plan Provisions

The 1959 Survivor program was designed to provide pre-retirement death benefits comparable to those provided by Social Security, formally the Federal Old Age and Survivor Insurance (OASI) program, to CalPERS' members not covered by Social Security.

Eligibility – The benefit is available only to those members not covered by Social Security OASI benefits. For public agencies, this benefit is provided by contract with CalPERS. Only those public agencies that contract for the 1st, 2nd, 3rd, 4th, or Indexed level of the program are eligible for the benefits valued in this report. Public Agency 1st and 2nd level have been closed since January 1, 1994 and 3rd level has been closed since July 1, 2001. For State and Schools members, the 5th level benefit is provided by State statute to certain groups of employees. Members who are eligible for the benefit are given a one-time option to join at the time of contract. Members hired subsequent to the time of contract are automatically enrolled in the program.

Benefit – The benefit is a monthly pension to eligible surviving spouses or domestic partners and children. A spouse or domestic partner is eligible if he or she (1) has care of eligible children or (2) is age 60 (62 for levels 1, 2, and 3) or older. A child is eligible if he or she is under 22 and not married. Physically disabled children are also eligible until the disability ceases. If there are no eligible children or spouse/domestic partner, dependent parents over age 60 (62 for levels 1, 2, and 3) may be eligible.

The monthly benefit amount depends upon the coverage level within the program.

Level 1 (For Members of Public Agencies who Contract)
    a. spouse or domestic partner with two or more eligible children;
       or three or more eligible children $430
    b. spouse with one eligible child; or two eligible children only $360
    c. one eligible child only; or spouse age 62 or older; or eligible dependent parents $180

Level 2 (For Members of Public Agencies who Contract)
    a. spouse or domestic partner with two or more eligible children;
       or three or more eligible children $538
    b. spouse with one eligible child; or two eligible children only $450
    c. one eligible child only; or spouse age 62 or older; or eligible dependent parents $225

Level 3 (For Members of Public Agencies who Contract)
    a. spouse or domestic partner with two or more eligible children;
       or three or more eligible children $840
    b. spouse with one eligible child; or two eligible children only $700
    c. one eligible child only; or spouse age 62 or older; or eligible dependent parents $350

Summary of Plan Provisions (continued)

Level 4 (For Members of Public Agencies who Contract)
  a. spouse or domestic partner with two or more eligible children;
     or three or more eligible children $2,280
  b. spouse with one eligible child; or two eligible children only $1,900
  c. one eligible child only; or spouse age 60 or older; or eligible dependent parents $950

Indexed Level (For Members of Public Agencies who Contract)
  a. spouse or domestic partner with two or more eligible children;
     or three or more eligible children $1,757[1]
  b. spouse with one eligible child; or two eligible children only $1,172[1]
  c. one eligible child only; or spouse age 60 or older; or eligible dependent parents $585[1]

Level 5 – (For State and Schools Members)
  a. spouse or domestic partner with two or more eligible children;
     or three or more eligible children $1,800
  b. spouse with one eligible child; or two eligible children only $1,500
  c. one eligible child only; or spouse age 60 or older; or eligible dependent parents $750

In regard to Level 5 for State and School members, according to Section 21574.7(i), the current level of benefit will be repealed as of January 1, 2010 and benefit levels will revert back to those that existed prior to January 1, 2000. Depending on a member's classification, the reduced benefit levels are equal to those that currently exist for Public Agency Levels 2 and 3. While this valuation does not take into account this potential decrease in benefits, it is widely assumed that legislation will be enacted prior to January 1, 2010 to keep benefits at their current levels.

Public agency employers joining the Public Agency 4th or Indexed Level Pool during the 2008-2009 fiscal year are required to pay only the Unfunded Liability (amortized over a period of 5 years) which exists at the time they join *plus* the agency's normal cost at the new benefit level for the first five years. If they have excess assets, then they will be allowed to use as much of it as necessary to offset any increased liabilities incurred at the higher level and required employer premiums incurred at the higher level.

1 - These figures indicate calendar year benefit amounts for the Indexed Level in effect for calendar year 2008. Benefit amounts will increase by 2 percent each January 1.

Comparison of Social Security and CalPERS 1959 Survivor Benefits

	Social Security[1]		
Survivor Group	**Low**	**Average**	**High**
One Survivor	$ 693	$ 1,078	$ 1,505
Two Survivors	$ 1,386	$ 2,156	$ 3,010
Three Survivors	$ 1,408	$ 2,629	$ 3,512

The values shown assume death at age 45 (benefits slightly higher at lower ages, lower at higher ages), and steady earnings. "Low" is 2008 salary of $25,000, "Average" is $50,000, and "High" is exceeding the maximum OASDI taxable earnings.

	CalPERS 1959 Survivor Benefit					
Survivor Group	**First**	**Second**	**Third**	**Fourth**	**Indexed[2]**	**Schools/ State 5th**
One Survivor	$ 180	$ 225	$ 350	$ 950	$ 585	$ 750
Two Survivors	$ 360	$ 450	$ 700	$ 1,900	$ 1,172	$ 1,500
Three Survivors	$ 430	$ 538	$ 840	$ 2,280	$ 1,757	$ 1,800

1 - Unlike the 1959 Survivor Benefit (with the exception of the Indexed level), federal Social Security benefits normally receive an automatic cost-of-living adjustment every year. Also, unlike the 1959 Survivor Benefit, Social Security benefits are based on a worker's actual earnings up to the maximum covered.

2 – Amounts effective January 1, 2008

Actuarial Funding Method for Public Agency 1ˢᵗ, 2ⁿᵈ, 3ʳᵈ and 4ᵗʰ Level, and State and Schools 5ᵗʰ Level Pools

The actuarial funding method used, as provided in State statute for public agency 1ˢᵗ, 2ⁿᵈ, 3ʳᵈ and 4ᵗʰ level, and State and Schools 5ᵗʰ level pools, is called the <u>Term Insurance</u> method. This is a terminal funding arrangement with no pre-funding of the survivor benefits payable on account of deaths expected to occur beyond those in the coming year.

The Normal Cost for the year is equal to the Expected Claims (present value of benefits arising from deaths) that will occur in the coming fiscal year. The expected claims for the coming fiscal year is determined as the expected claim per member, per month multiplied by the expected member months for the coming fiscal year. The normal cost (or expected claims) per member, per month for the coming fiscal year is equal to a weighted average of the prior year and current year normal cost. Specifically, the current year's normal cost is calculated as the present value of member deaths for the past 4 years divided by the total number of members exposed to the death benefit over the same period. Then the normal cost (expected claims) for the coming year is simply 25% of the current year's normal cost and 75% of the prior year's normal cost. This is a change from the past where the valuation used 100% of the current year's normal cost for the next fiscal year. The main impetus for this change comes from the fact that when new deaths occur each year, it is often unknown which benefit will ultimately apply (i.e. 1957 Survivor, Industrial Death, Pre-Retirement Option 2 or 1959 Survivor). Many times, new deaths are initially placed under the 1959 Survivor roll, but ultimately are reclassified to another roll the very next year. This can create extreme volatility in the normal cost calculation between valuation years, especially for smaller pools.

The consequence of this new approach is that very little weight is given to the most recent year's data and more weight is given to previous years. In fact, as this methodology matures or reaches a steady state, all data from the past would have some impact on the calculated normal cost. The following matrix shows ultimate weights for the past ten year's data as the methodology approaches its steady state, also included are weights from the prior application of the methodology:

	<u>Weights</u>	
<u>Data t years ago</u>	<u>Current</u>	<u>Past</u>
1	6.3%	25%
2	10.9	25
3	14.5	25
4	17.1	25
5	12.8	-
6	9.6	-
7	7.2	-
8	5.4	-
9	4.1	-
10	3.0	-

The Accrued Liability is equal to the Present Value of Benefits payable to current survivors. If the Accrued Liability exceeds the Actuarial Value of Assets, the difference is called the Unfunded Liability. On the other hand, if the Actuarial Value of Assets exceeds the Accrued Liability, the difference is called Excess Assets.

The required employer monthly premium is the total required monthly premium less the $2.00 per month member contributions as required by State Statute Section 21581. For all levels, existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, for the State and Schools 5th Level pool, if the total required monthly premium after amortization of excess assets exceeds $4, the member and the employer shall evenly share the required monthly premium. For the current valuation date, the unfunded liability for the State 5th Level pool was amortized over a 30-year period. Excess assets for the Schools 5th Level pool, and Public Agency 1st, 2nd, and 3rd Level pools were sufficient to offset required employer contributions indefinitely, based on June 30, 2007 data and assumptions. Excess assets for the Public Agency 4th Level were amortized over a 30-year period, and are not sufficient to fully offset the required employer contribution. The resulting employer contribution for the 4th Level is $2.50 per covered member per month.

Actuarial Funding Method for Public Agency Indexed Level Pool

The funding method used for the Public Agency Indexed Level pool is the <u>Entry Age Normal</u> method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces an annual cost that increases by approximately 2% in each year.

The Normal Cost for the Public Agency Indexed Level pool is the portion of the total Entry Age Normal cost, as described in the preceding paragraph that is allocated to the current fiscal year. Since there is no cost allocated to the current fiscal year for those already receiving benefits or are in a deferred status, only active members have a Normal Cost. The population demographics are assumed to remain stable for purposes of projecting the Normal Cost to the year for which the contribution requirement is being determined.

The Accrued Liability is equal to the Present Value of Future Benefits for both current survivors and active members, less the Present Value of Future Normal Costs.

The total required monthly premium is the sum of the individual Normal Costs divided by the number of member months. The required employer monthly premium is the total required monthly premium less the $2.00 per month member contributions as required by State Statute Section 21581. Existing excess assets in the pool will be amortized and directly used to offset required employer contributions. However, if the total required monthly premium after amortization of excess assets exceeds $4.00, the member and the employer shall evenly share the required monthly premium. Excess assets for the Public Agency Indexed Level were amortized over a 30-year period, and are no longer sufficient to fully offset required employer contributions. The resulting employer contribution for the Indexed Level is $0.90 per covered member per month.

Asset Valuation Method

In order to dampen the effect of short term market value fluctuations on employer contribution rates, the following asset smoothing technique is used. First, an Expected Value of Assets is computed by bringing forward the prior year's Actuarial Value of Assets and the contributions received and benefits paid during the year at the assumed actuarial rate of return. The Actuarial Value of Assets is then computed as the Expected Value of Assets plus one-fifteenth of the difference between the actual Market Value of Assets and Expected Value of Assets as of the valuation date. However, in no case will the Actuarial Value of Assets be less then 80% nor greater than 120% of the actual Market Value of Assets. This smoothing technique is the same as that used for all CalPERS retirement programs.

Actuarial Assumptions

The actuarial assumptions used in this valuation include the investment return rate and the mortality rates for current beneficiaries. These assumptions are shown below. Mortality rates for active members of all pools combined are shown on Attachment 2 and are inherent in the calculation of the annual normal costs.

Economic Assumptions

    Investment Return   7.75% compounded annually (net of administrative expenses).

Demographic Assumptions

    Beneficiary Mortality   Rates that vary by age and sex. See table below for sample rates.

Attained Age	Male Mortality Rate	Female Mortality Rate
20	.0005	.0003
25	.0006	.0003
30	.0008	.0003
35	.0008	.0005
40	.0010	.0007
45	.0015	.0009
50	.0025	.0014
55	.0043	.0025
60	.0072	.0044
65	.0130	.0080
70	.0214	.0128
75	.0372	.0216
80	.0626	.0388
85	.1020	.0722
90	.1738	.1259
95	.2592	.2177
100	.3472	.3204
105	.5853	.5609
110	1.0000	1.0000

Method for Projecting Active Counts

Projected counts of active members are needed to estimate the required employer premiums and projected unfunded liabilities for each pool. For the State, School and Public Agency Level 3, the valuation uses a linear trend model (ordinary least squares time series regression) to predict future counts. The migration into and out of these pools is very stable and predictable making this form of estimation optimal.

However, for Public Agency Levels 1, 2, and 4, migration between pools can vary dramatically from year to year. Consequently, the data shows a pattern that suggests a model where past counts (instead of just time) can be explicitly used to model future counts. Thus this valuation uses an autoregressive type model to predict future counts. The autoregressive method greatly reduces the variability and correlation in the prediction errors. Indexed Level counts were projected by applying the active count increase realized between 2006 and 2007 to the 2007 count, as we are assuming similar growth in the Indexed Level between 2007 and 2008.

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level

The Public Agency Indexed Level's Accrued Liability and Entry Age Normal cost for active members are calculated based on the actuarial assumptions for our Public Agency miscellaneous 2% @ 55 and police 2% @ 50 pension plans. The final valuation results equals the sum of the results valued on the basis of a miscellaneous 2% @ 55 plan plus the results valued on the basis of a police 2% @ 50 plan, where all miscellaneous employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using miscellaneous 2% @ 55 assumptions, and all safety employees of plans contracting for the Public Agency Indexed Level of 1959 Survivor benefits are valued using police 2% @ 50 assumptions.

The actuarial assumptions for each of these plans are as follows:

Eligible Survivor Status

For active members of both the Miscellaneous and Safety Police plans, the probability of having eligible survivor(s) at the date of death is assumed according to the following table:

Age at Death	Percent having Eligible Survivor(s)
Age 20 and under	30%
Between ages 21 and 24	50%
Between ages 25 and 29	70%
Between ages 30 and 39	90%
Between ages 40 and 49	95%
Between ages 50 and 54	90%
Age 55 and above	85%

Average claims are developed at every age using actual experience from the program. These average claims are then multiplied by the percentages in the above table. The results are used to estimate expected claims in the active population.

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level (continued)

Benefit amounts and Present Value of benefits were based on average claim experience. A sample of the average claim experience is shown in the table below:

Age at Death	Present Value of Average Claim at the Time of Death*
20 and below	$ 26,732
25	$ 87,923
30	$ 121,125
35	$ 114,112
40	$ 105,344
45	$ 88,781
50	$ 71,085
55	$ 59,406
60	$ 56,524
65	$ 57,000
70	$ 57,570
75	$ 53,201
80 and above	$ 37,090

Average claims were calculated using actual experience from the 1959 Survivor program and smoothed using a polynomial regression model.

*Values are based on an initial benefit of $500/$1,000/$1,500 for one two or three survivors, respectively. This was the benefit level on June 30, 2000, when the Indexed Level first became effective. The valuation program increases these amounts by 2% per year up to the current valuation year.

Public Agency Miscellaneous 2% @ 55

Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability

Rates vary by age and sex. See sample rates in table below.

	Male		Female	
Attained Age	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00020	0.00014	0.00020
30	0.00038	0.00020	0.00021	0.00040
35	0.00054	0.00080	0.00031	0.00100
40	0.00077	0.00150	0.00046	0.00160
45	0.00110	0.00240	0.00068	0.00230
50	0.00156	0.00370	0.00102	0.00350
55	0.00221	0.00490	0.00151	0.00410
60	0.00314	0.00550	0.00226	0.00390

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level (continued)

Public Agency Miscellaneous 2% @ 55 (continued)

Service Retirement

Rates vary by age and service. See table sample below.

| | Service Retirement | | | | | |
| | Duration of Service | | | | | |
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0145	0.0184	0.0224	0.0269	0.0307	0.0366
51	0.0106	0.0135	0.0164	0.0198	0.0226	0.0269
52	0.0114	0.0145	0.0176	0.0212	0.0241	0.0287
53	0.0150	0.0190	0.0231	0.0278	0.0318	0.0378
54	0.0199	0.0252	0.0307	0.0369	0.0421	0.0502
55	0.0475	0.0604	0.0734	0.0883	0.1008	0.1200
56	0.0395	0.0502	0.0611	0.0735	0.0838	0.0998
57	0.0427	0.0542	0.0659	0.0793	0.0905	0.1078
58	0.0473	0.0601	0.0730	0.0879	0.1003	0.1194
59	0.0510	0.0648	0.0788	0.0948	0.1082	0.1287
60	0.0715	0.0908	0.1104	0.1328	0.1516	0.1804
61	0.0715	0.0908	0.1104	0.1328	0.1516	0.1805
62	0.1275	0.1620	0.1969	0.2369	0.2704	0.3219
63	0.1287	0.1636	0.1988	0.2392	0.2731	0.3250
64	0.0931	0.1182	0.1438	0.1729	0.1974	0.2350
65	0.1738	0.2209	0.2686	0.3231	0.3688	0.4390
66	0.1085	0.1378	0.1675	0.2016	0.2301	0.2739
67	0.1109	0.1409	0.1713	0.2061	0.2353	0.2801
68	0.0878	0.1116	0.1356	0.1632	0.1863	0.2217
69	0.1035	0.1315	0.1599	0.1923	0.2196	0.2614
70	0.1224	0.1555	0.1890	0.2274	0.2596	0.3090

Termination with Refund

Rates vary by entry age and service. See sample rates in table below.

| | Termination with Refund | | | | | |
| Duration of | Entry Age | | | | | |
Service	20	25	30	35	40	45
0	0.1760	0.1691	0.1622	0.1553	0.1483	0.1414
1	0.1561	0.1492	0.1423	0.1353	0.1284	0.1215
2	0.1362	0.1293	0.1224	0.1154	0.1085	0.1016
3	0.1163	0.1094	0.1025	0.0955	0.0886	0.0817
4	0.0964	0.0895	0.0826	0.0756	0.0687	0.0618
5	0.0283	0.0257	0.0232	0.0206	0.0181	0.0155
10	0.0184	0.0161	0.0139	0.0117	0.0095	0.0073
15	0.0120	0.0102	0.0083	0.0064	0.0046	0.0027
20	0.0073	0.0057	0.0041	0.0025	0.0009	0.0002
25	0.0034	0.0022	0.0009	0.0002	0.0002	0.0002
30	0.0010	0.0002	0.0002	0.0002	0.0002	0.0002

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level
(continued)

<u>**Public Agency Miscellaneous 2% @ 55 (continued)**</u>

Termination with Vested Deferred Benefits
Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Vested Deferred Benefits				
	Entry Age				
	20	25	30	35	40
5	0.0482	0.0439	0.0395	0.0351	0.0307
10	0.0390	0.0343	0.0296	0.0249	0.0000
15	0.0326	0.0274	0.0224	0.0000	0.0000
20	0.0245	0.0192	0.0000	0.0000	0.0000
25	0.0156	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000

<u>**Public Agency Police 2% @ 50**</u>

Non-Industrial (Not Job-Related) Death and Non-Industrial (Not Job-Related) Disability

Rates vary by age and sex. See sample rates in table below.

Attained Age	Male		Female	
	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability	Non-Industrial (Not Job-Related) Death	Non-Industrial (Not Job-Related) Disability
20	0.00019	0.00010	0.00009	0.00010
25	0.00027	0.00010	0.00014	0.00010
30	0.00038	0.00020	0.00021	0.00020
35	0.00054	0.00030	0.00031	0.00030
40	0.00077	0.00040	0.00046	0.00040
45	0.00110	0.00050	0.00068	0.00050
50	0.00156	0.00080	0.00102	0.00080
55	0.00221	0.00130	0.00151	0.00130
60	0.00314	0.00200	0.00226	0.00200

Termination with Vested Deferred Benefits
Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Vested Deferred Benefits				
	Entry Age				
	20	25	30	35	40
5	0.0187	0.0187	0.0187	0.0187	0.0187
10	0.0145	0.0145	0.0145	0.0145	0.0000
15	0.0094	0.0094	0.0094	0.0000	0.0000
20	0.0075	0.0075	0.0000	0.0000	0.0000
25	0.0067	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000

Additional Actuarial Assumptions Applicable to the Public Agency Indexed Level
(continued)

Public Agency Police 2% @ 50 (continued)

Termination with Refund

Rates vary by entry age and service. See sample rates in table below.

Duration of Service	Termination with Refund					
	Entry Age					
	20	25	30	35	40	45
0	0.1299	0.1299	0.1299	0.1299	0.1299	0.1299
1	0.0816	0.0816	0.0816	0.0816	0.0816	0.0816
2	0.0348	0.0348	0.0348	0.0348	0.0348	0.0348
3	0.0331	0.0331	0.0331	0.0331	0.0331	0.0331
4	0.0314	0.0314	0.0314	0.0314	0.0314	0.0314
5	0.0110	0.0110	0.0110	0.0110	0.0110	0.0110
10	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068
15	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
20	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022
25	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
30	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012

Service Retirement

Rates vary by age and service. See table sample below.

Age	Service Retirement					
	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0138	0.0138	0.0138	0.0138	0.0253	0.0451
51	0.0123	0.0123	0.0123	0.0123	0.0226	0.0402
52	0.0262	0.0262	0.0262	0.0262	0.0480	0.0855
53	0.0523	0.0523	0.0523	0.0523	0.0957	0.1706
54	0.0697	0.0697	0.0697	0.0697	0.1275	0.2274
55	0.0899	0.0899	0.0899	0.0899	0.1645	0.2932
56	0.0638	0.0638	0.0638	0.0638	0.1166	0.2079
57	0.0711	0.0711	0.0711	0.0711	0.1300	0.2318
58	0.0628	0.0628	0.0628	0.0628	0.1149	0.2049
59	0.1396	0.1396	0.1396	0.1396	0.1735	0.2544
60	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
61	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
62	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
63	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
64	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Attachments

Attachment 1
Demographic and Experience Information

Current and Deferred Beneficiaries – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

Currently, there are 3,892 cases where liability exists. These cases include widows or widowers in deferred status even though presently there are no benefits being paid. There are 9 possible beneficiary combinations that can be associated with each case. The combinations presented below are given as of the time of death of the member *and* as they exist currently, for all levels of the 1959 Survivor program.

	At time of Death		Current Condition	
Status	**Number**	**Percentage**	**Number**	**Percentage**
Widow deferred	1,275	32.8%	871	22.4%
Widow only receiving	409	10.5%	2,134	54.8%
Widow with one child	707	18.2%	305	7.8%
Widow with two or more children	1,269	32.6%	294	7.6%
One child	88	2.3%	183	4.7%
Two children	83	2.1%	70	1.8%
Three or more children	54	1.4%	28	0.7%
One parent	5	0.1%	6	0.2%
Two parents	2	0.05%	1	0.0%
Totals	3,892	100.0%[1]	3,892	100.0%[1]

Beneficiary Combinations at Date of Death – All Levels of the 1959 Survivor Program for Public Agencies, State and Schools

There exist 6,687 cases of death associated with the 1959 Survivor program since its inception. With this data, a historical account of each combination can be made. Further, probabilities can be approximated with respect to these combinations when a member dies. Below is a list of all combinations on record, numbers and associated percentages as of the time of death, for all levels of the 1959 Survivor program.

Status	**Number**	**Percent**
Widow deferred	2,072	31.0%
Widow only receiving	885	13.2%
Widow with one child	1,024	15.3%
Widow with two or more children	1,789	26.8%
One child	418	6.3%
Two children	302	4.5%
Three or more children	176	2.6%
One parent	19	0.3%
Two parents	2	0.0%
Totals	6,687	100.0%[1]

1 – Percentages may not sum to 100% due to rounding

Attachment 2
1959 Survivor Coverage by Level

A CalPERS contracting agency that has employees not covered by Social Security will offer those employees 1st, 2nd, 3rd, 4th, or Indexed Level of 1959 Survivor benefit coverage, or no 1959 Survivor coverage at all. The following table shows the number of agencies and the count of active employees under each coverage scenario. An agency offering different levels of benefits to different groups of employees will be counted each time for each level that it offers.

	As of June 30, 2006		Agencies amending to different level[2]	As of June 30, 2007	
	Contracting Agencies	Covered Active Employees		Contracting Agencies	Covered Active Employees
No Coverage [1]	180	17,304		183	17,941
Level 1 Benefits	46	8,615	(1)	45	8,578
Level 2 Benefits	43	4,423	(1)	42	4,498
Level 3 Benefits	329	45,639	(10)	326	45,373
Level 4 Benefits	355	69,216	12	369	71,886
Indexed Level Benefits	59	9,202		62	9,677
Total	1,012	154,399		1,028	157,953

1 - This count includes only agencies that have active members. The change in agencies with no coverage from June 30, 2006 to June 30, 2007 is due to two agencies contracting for 1959 Survivor benefits for the first time, two agencies that were counted in 2006 but now have no active members, two agencies that had no active members in 2006 but now have active members, one existing agency that contracted for full formula benefits, and four agencies that were not included in 2006 but should have been.
2 - The column only reflects agencies moving between 1959 Survivor benefit levels due to contract amendments. This does not include new or existing agencies contracting for 1959 Survivor benefits for the first time.

Attachment 3
1959 Survivor Deaths Per Year

Displayed on the following page is a year-by-year account of the number of deaths under the program since 1959 and the death rate each year since 1980 for public agencies, State, and Schools. The historic covered active counts are not available prior to 1980. Deaths given in the exhibits below are on a calendar year basis. Counts represent mid-year active exposure. The historic covered active counts may not match those reported in the prior year's valuation. This is due to the fact that in some cases there is a time gap between a member's death and the determination of which type of death benefit that member will receive.

Attachment 3 - continued
1959 Survivor Deaths Per Year

Calendar Year	Public Agency			State			School		
	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate	Deaths	Mid-year Active Counts	Death Rate
1970	41		*	90		*	14		*
1971	42		*	75		*	10		*
1972	47		*	74		*	12		*
1973	54		*	74		*	14		*
1974	52		*	70		*	7		*
1975	67		*	101		*	10		*
1976	56		*	68		*	6		*
1977	59		*	75		*	22		*
1978	71		*	95		*	17		*
1979	57		*	90		*	7		*
1980	62		*	86		*	7		*
1981	80	54,354	0.15%	74	38,192	0.19%	10	7,843	0.13%
1982	73	56,401	0.13%	79	37,030	0.21%	11	7,987	0.14%
1983	82	59,917	0.14%	67	37,186	0.18%	8	7,685	0.10%
1984	79	65,480	0.12%	69	38,488	0.18%	6	7,104	0.08%
1985	71	66,927	0.11%	79	39,175	0.20%	5	6,842	0.07%
1986	64	68,500	0.09%	48	39,391	0.12%	8	6,500	0.12%
1987	65	69,340	0.09%	53	40,315	0.13%	10	6,200	0.16%
1988	80	84,808	0.09%	51	41,980	0.12%	9	7,100	0.13%
1989	67	82,046	0.08%	63	44,069	0.14%	6	6,899	0.09%
1990	90	86,196	0.10%	65	45,502	0.14%	7	7,942	0.09%
1991	97	91,574	0.11%	40	47,708	0.08%	7	7,752	0.09%
1992	88	95,840	0.09%	44	48,872	0.09%	8	6,823	0.12%
1993	83	97,752	0.08%	55	46,872	0.12%	4	6,776	0.06%
1994	75	98,088	0.08%	61	47,323	0.13%	11	6,653	0.17%
1995	75	99,235	0.08%	53	47,689	0.11%	9	6,751	0.13%
1996	78	100,494	0.08%	54	51,746	0.10%	6	6,726	0.09%
1997	71	102,475	0.07%	60	55,084	0.11%	4	6,794	0.06%
1998	83	112,389	0.07%	59	55,435	0.11%	7	6,956	0.10%
1999	95	118,850	0.08%	61	59,406	0.10%	1	7,444	0.01%
2000	76	121,538	0.06%	56	60,349	0.09%	7	8,338	0.08%
2001	90	116,161	0.08%	59	64,309	0.09%	5	7,884	0.06%
2002	88	129,355	0.07%	51	65,558	0.08%	4	9,195	0.04%
2003	93	129,620	0.07%	67	68,791	0.10%	5	9,390	0.05%
2004	89	131,633	0.07%	57	64,252	0.09%	2	9,325	0.02%
2005	102	133,510	0.08%	60	70,193	0.09%	5	9,402	0.05%
2006	87	137,095	0.06%	61	71,742	0.09%	11	9,469	0.12%